Amendments to the Claims

Please amend Claims 10 and 11. The Claim Listing below will replace all prior versions of the claims in the application:

Claim Listing

- 1. (Previously Presented) A composition comprising OspC polypeptides from Lyme Disease causing *Borrelia* wherein said composition comprises one or more OspC polypeptides from at least two *Borrelia burgdorferi sensu stricto* OspC families selected from the group consisting of: A, B, I, and K, excepting the combination consisting of two OspC proteins wherein one OspC protein is from family A and the second OspC protein is from family I.
- 2. (Previously Presented) The composition of Claim 1 comprising one or more OspC polypeptides from each of said *Borrelia burgdorferi sensu stricto* families.
- 3. (Previously Presented) The composition of Claim 1, wherein said OspC polypeptide comprises the OspC protein variable region.
- 4. (Previously Presented) The composition of Claim 3, wherein said OspC polypeptide is encoded by a nucleic acid comprising nucleotide 26 to about nucleotide 621 of an *ospC* gene.
- 5. (Previously Presented) The composition of Claim 3, wherein said OspC polypeptide is encoded by a nucleic acid comprising nucleotide 53 to about nucleotide 570 of an *ospC* gene.

- 6. (Previously Presented) The composition of Claim 1, wherein at least two of said OspC polypeptides are fused together in a single protein, encoded by a single nucleic acid, wherein polypeptides in said fusion protein are not found in the same configuration in a naturally occurring OspC protein.
- 7. (Original) The composition of Claim 1, wherein the *ospC* genes encoding the OspC polypeptides within a given OspC family are at least 98% identical at the nucleic acid level.
- 8. (Previously Presented) The composition of Claim 7, wherein *Borrelia burgdorferi sensu* stricto OspC family A comprises strains B31, CA4, HII, IPI, IP2, IP3, L5, PIF, Pka, Txgw and strains containing ospC allele OC1.
- 9. (Previously Presented) The composition of Claim 7, wherein *Borrelia burgdorferi sensu stricto* OspC family B comprises strains 35B808, 61 BV3, BUR, DK7, PB3, Z57 and strains containing *ospC* genes OC2 and OC3.
- 10. (Currently Amended) The composition of Claim 7, wherein *Borrelia burgdorferi sensu stricto* OspC family I comprises strains 297, HB19 and strains containing *ospC* gene OC10, wherein strain 297 is characterized by *ospC* of GenBank accession number L42893 (SEQ ID NO:85).
- 11. (Currently Amended) The composition of Claim 7, wherein *Borrelia burgdorferi sensu stricto* OspC family K comprises strains 272, 297, 28354, KIPP, MUL and strains containing *ospC* gene OC12 and OC13, wherein strain 297 is characterized by *ospC* of GenBank accession number U08284 (SEQ ID NO:86).

12-38. (Canceled)

- 39. (Previously Presented) A chimeric protein comprising OspC polypeptides from two or more Lyme Disease causing OspC families of Lyme Disease causing *Borrelia* wherein said chimeric protein comprises:
 - a) a first OspC polypeptide encoded by a nucleic acid comprising a sequence from about nucleotide 26 to about nucleotide 621 of an *ospC* gene from a first OspC family and
 - b) a second OspC polypeptide encoded by a nucleic acid comprising a sequence from about nucleotide 28 to about nucleotide 570 of an *ospC* gene from a second OspC family,

wherein said OspC families are selected from the group consisting of: *Borrelia burgdorferi sensu stricto* OspC families A, B, I, and K, and *Borrelia afzelii* OspC families A and B.

40. (Canceled)

- 41. (Previously Presented) A chimeric protein comprising OspC polypeptides from two or more Lyme Disease causing OspC families of Lyme Disease causing Borrelia wherein said chimeric protein comprises:
 - a) a first OspC polypeptide encoded by a nucleic acid comprising a sequence from about nucleotide 53 to about nucleotide 570 of an *ospC* gene from a first OspC family and
 - b) a second OspC polypeptide encoded by a nucleic acid comprising a sequence from about nucleotide 28 to about nucleotide 570 of an *ospC* gene from a second OspC family,

wherein said OspC families are selected from the group consisting of: *Borrelia burgdorferi sensu stricto* OspC families A, B, I, and K, and *Borrelia afzelii* OspC families A and B.

- 42. (Original) The chimeric protein of Claim 41, wherein said protein is unlipidated.
- 43. (Previously Presented) A chimeric OspC protein selected from the group consisting of: SEQ Id Nos: 24, 26, 28, 30, 32, 34, 36, 38, 40, 42, 52, 54, 56, 58, 60, 62, 64, 66, 68, 70, 72, 74, 76, 78, 80, 82, and 84.

44-48. (Canceled)

- 49. (Previously Presented) The composition of Claim 1, further comprising at least one OspC polypeptide from each of *Borrelia afzelii* OspC families A and B.
- 50. (Previously Presented) The composition of Claim 49, wherein *Borrelia afzelii* OspC family A comprises strains Pbo, Pwud, PKO, Pgau, DK2, DK3, DK21, DK8, Bfox and JSB.
- 51. (Previously Presented) The composition of Claim 49, wherein *Borrelia afzelii* OspC family B comprises strains DK5, ACA1, DK9, XB18h, Ple and 134M.
- 52. (Previously Presented) The chimeric protein of Claim 39, wherein said protein is unlipidated.